



Complete Summary

TITLE

Heart failure in adults: percentage of adult patients with a primary diagnosis of heart failure who have LVSD and who do not have contraindications to taking both ACEI and ARBs, who are prescribed an ACEI or an ARB at hospital discharge.

SOURCE(S)

Institute for Clinical Systems Improvement (ICSI). Heart failure in adults. Bloomington (MN): Institute for Clinical Systems Improvement (ICSI); 2007 Aug. 119 p. [217 references]

Measure Domain

PRIMARY MEASURE DOMAIN

Process

The validity of measures depends on how they are built. By examining the key building blocks of a measure, you can assess its validity for your purpose. For more information, visit the [Measure Validity](#) page.

SECONDARY MEASURE DOMAIN

Does not apply to this measure

Brief Abstract

DESCRIPTION

This measure is used to assess the percentage of adult patients with a primary diagnosis of heart failure who have left ventricular systolic dysfunction (LVSD) and who do not have contraindications to taking both angiotensin-converting enzyme inhibitors (ACEI) and angiotensin receptor blockers (ARBs), who are prescribed an ACEI or an ARB at hospital discharge.

RATIONALE

The priority aim addressed by this measure is to optimize the pharmacologic treatment of patients with heart failure.

PRIMARY CLINICAL COMPONENT

Heart failure; left ventricular systolic dysfunction (LVSD); angiotensin-converting enzyme inhibitor (ACEI); angiotensin receptor blocker (ARB)

DENOMINATOR DESCRIPTION

Number of adult patients with a primary diagnosis of heart failure with left ventricular systolic dysfunction (LVSD) and without contraindications to both angiotensin-converting enzyme inhibitors (ACEI) and angiotensin receptor blockers (ARBs) (see the related "Denominator Inclusions/Exclusions" field in the Complete Summary)

NUMERATOR DESCRIPTION

Number of adult patients with a primary diagnosis of heart failure with left ventricular systolic dysfunction (LVSD) who are prescribed an angiotensin-converting enzyme inhibitor (ACEI) or angiotensin receptor blocker (ARB) at hospital discharge

Evidence Supporting the Measure

EVIDENCE SUPPORTING THE CRITERION OF QUALITY

- A clinical practice guideline or other peer-reviewed synthesis of the clinical evidence

NATIONAL GUIDELINE CLEARINGHOUSE LINK

- [Heart failure in adults.](#)

Evidence Supporting Need for the Measure

NEED FOR THE MEASURE

Unspecified

State of Use of the Measure

STATE OF USE

Current routine use

CURRENT USE

Internal quality improvement

Application of Measure in its Current Use

CARE SETTING

Hospitals

PROFESSIONALS RESPONSIBLE FOR HEALTH CARE

Physicians

LOWEST LEVEL OF HEALTH CARE DELIVERY ADDRESSED

Group Clinical Practices

TARGET POPULATION AGE

Age greater than or equal to 18 years

TARGET POPULATION GENDER

Either male or female

STRATIFICATION BY VULNERABLE POPULATIONS

Unspecified

Characteristics of the Primary Clinical Component

INCIDENCE/PREVALENCE

Heart failure is a major health problem in the United States, and the incidence of the disease is projected to increase. It was the most frequent diagnosis of Medicare patients discharged from the hospital in 2001. There are an estimated 5 million individuals currently diagnosed with heart failure, 550,000 new cases diagnosed annually, and 1 million people hospitalized annually (including readmission rates of 30 to 60%).

EVIDENCE FOR INCIDENCE/PREVALENCE

Institute for Clinical Systems Improvement (ICSI). Heart failure in adults. Bloomington (MN): Institute for Clinical Systems Improvement (ICSI); 2007 Aug. 119 p. [217 references]

ASSOCIATION WITH VULNERABLE POPULATIONS

Unspecified

BURDEN OF ILLNESS

There are over 260,000 annual deaths from heart failure. From 1979 to 2000 heart failure death rates have increased 148% and hospital discharges have increased 165%. The prognosis of patients with a new diagnosis of heart failure is

poor. Senni et al. (1998) noted survival to be 86% at 3 months, 76% at one year, and only 35% at 5 years.

EVIDENCE FOR BURDEN OF ILLNESS

Institute for Clinical Systems Improvement (ICSI). Heart failure in adults. Bloomington (MN): Institute for Clinical Systems Improvement (ICSI); 2007 Aug. 119 p. [217 references]

Senni M, Tribouilloy CM, Rodeheffer RJ, Jacobsen SJ, Evans JM, Bailey KR, Redfield MM. Congestive heart failure in the community: a study of all incident cases in Olmsted County, Minnesota, in 1991. *Circulation* 1998 Nov 24;98(21):2282-9. [PubMed](#)

UTILIZATION

See the "Incidence/Prevalence" field.

COSTS

Unspecified

Institute of Medicine National Healthcare Quality Report Categories

IOM CARE NEED

Living with Illness

IOM DOMAIN

Effectiveness

Data Collection for the Measure

CASE FINDING

Users of care only

DESCRIPTION OF CASE FINDING

Adult patients with a primary diagnosis of heart failure who have left ventricular systolic dysfunction (LVSD)*.

The time of evaluation is at hospital discharge. Monthly data will be submitted quarterly.

The minimum sample size is 20 patients per month.

*Left ventricular systolic dysfunction is defined quantitatively, as left ventricular ejection fraction less than 40%, and qualitatively, as moderately or severely depressed left ventricular systolic function.

DENOMINATOR SAMPLING FRAME

Patients associated with provider

DENOMINATOR INCLUSIONS/EXCLUSIONS

Inclusions

Number of adult patients with a primary diagnosis of heart failure* with left ventricular systolic dysfunction (LVSD)** and without contraindications to both angiotensin-converting enzyme inhibitors (ACEI) and angiotensin receptor blockers (ARBs)

*International Classification of Diseases, Ninth Revision (ICD-9) codes 428.0, 428.1, 428.20, 428.21, 428.22, 428.23, 428.40, 428.41, 428.42, 428.43, 428.9 (Refer to the table, "Descriptions of ICD-9 Codes," in the original measure documentation for code descriptions.)

**LVSD is defined quantitatively, as left ventricular ejection fraction less than 40%, and qualitatively, as moderately or severely depressed left ventricular systolic function.

Exclusions

- Patients less than 18 years of age
- Patients with potential contraindications or other reasons* for the provider to not prescribe an ACEI at discharge
- Patients with potential contraindications or other reasons* for the provider to not prescribe an ARB at discharge
- Patients transferred to another hospital
- Patients who died
- Patients who left against medical advice
- Patients discharged to hospice

*Potential contraindications or other reasons for not prescribing an ACEI and a potential contraindication or other reason for not prescribing an ARB at discharge include:

- ACEI and ARB allergy
- Moderate or severe aortic stenosis
- Physician, nurse practitioner, or physician assistant documentation of reasons for not prescribing both an ACEI and ARB at discharge
- ACEI allergy and physician, nurse practitioner, or physician assistant documentation for not prescribing an ARB at discharge
- ARB allergy and physician, nurse practitioner, or physician assistant documentation for not prescribing an ACEI at discharge
- Patient had a left ventricular assistive device (LVAD) or heart transplant procedure during hospitalization
- Patient reasons (refusal, financial hardship, side-effects, etc.)
- Pregnancy
- Hyperkalemia (ARB)
- Renal insufficiency (ACEI) or renal dysfunction (ARB)

RELATIONSHIP OF DENOMINATOR TO NUMERATOR

All cases in the denominator are equally eligible to appear in the numerator

DENOMINATOR (INDEX) EVENT

Clinical Condition
Institutionalization

DENOMINATOR TIME WINDOW

Time window is a single point in time

NUMERATOR INCLUSIONS/EXCLUSIONS

Inclusions

Number of adult patients with a primary diagnosis of heart failure with left ventricular systolic dysfunction (LVSD) who are prescribed an angiotensin-converting enzyme inhibitor (ACEI) or angiotensin receptor blocker (ARB) at hospital discharge

Exclusions

Unspecified

MEASURE RESULTS UNDER CONTROL OF HEALTH CARE PROFESSIONALS, ORGANIZATIONS AND/OR POLICYMAKERS

The measure results are somewhat or substantially under the control of the health care professionals, organizations and/or policymakers to whom the measure applies.

NUMERATOR TIME WINDOW

Institutionalization

DATA SOURCE

Administrative data
Medical record

LEVEL OF DETERMINATION OF QUALITY

Individual Case

PRE-EXISTING INSTRUMENT USED

Unspecified

Computation of the Measure

SCORING

Rate

INTERPRETATION OF SCORE

Better quality is associated with a higher score

ALLOWANCE FOR PATIENT FACTORS

Unspecified

STANDARD OF COMPARISON

Internal time comparison

Evaluation of Measure Properties

EXTENT OF MEASURE TESTING

Unspecified

Identifying Information

ORIGINAL TITLE

Percentage of adult patients with a primary diagnosis of heart failure who have left ventricular systolic dysfunction (LVSD) and who do not have contraindications to taking both angiotensin-converting enzyme inhibitors (ACEI) and angiotensin receptor blockers (ARBs), who are prescribed an ACEI or an ARB at hospital discharge.

MEASURE COLLECTION

[Heart Failure in Adults Measures](#)

DEVELOPER

Institute for Clinical Systems Improvement

ADAPTATION

Measure was not adapted from another source.

RELEASE DATE

2006 Aug

REVISION DATE

2007 Aug

MEASURE STATUS

This is the current release of the measure.

This measure updates a previous version: Institute for Clinical Systems Improvement (ICSI). Heart failure in adults. Bloomington (MN): Institute for Clinical Systems Improvement (ICSI); 2006 Aug. 116 p.

SOURCE(S)

Institute for Clinical Systems Improvement (ICSI). Heart failure in adults. Bloomington (MN): Institute for Clinical Systems Improvement (ICSI); 2007 Aug. 119 p. [217 references]

MEASURE AVAILABILITY

The individual measure, "Percentage of adult patients with a primary diagnosis of heart failure who have left ventricular systolic dysfunction (LVSD) and who do not have contraindications to taking both angiotensin-converting enzyme inhibitors (ACEI) and angiotensin receptor blockers (ARBs), who are prescribed an ACEI or an ARB at hospital discharge," is published in "Health Care Guideline: Heart Failure in Adults." This document is available from the [Institute for Clinical Systems Improvement \(ICSI\) Web site](#).

For more information, contact ICSI at, 8009 34th Avenue South, Suite 1200, Bloomington, MN 55425; phone: 952-814-7060; fax: 952-858-9675; Web site: www.icsi.org; e-mail: icsi.info@icsi.org.

NQMC STATUS

This NQMC summary was completed by ECRI on November 14, 2006. This NQMC summary was updated by ECRI Institute on December 16, 2007.

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